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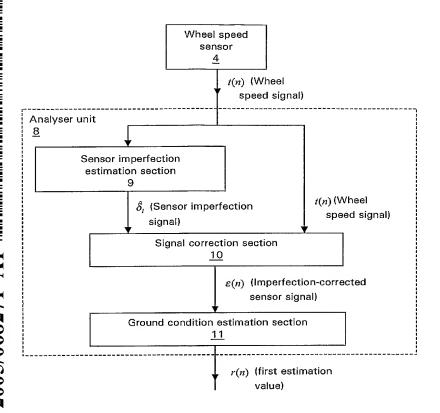
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#### (54) Title: ESTIMATION OF THE ROAD CONDITION UNDER A VEHICLE



(57) Abstract: A system for estimating the ground condition under a driving vehicle, comprising: a wheel speed sensor (4) for sensing a wheel speed signal (t(n), $\omega(n)$ ) which is indicative of the wheelpeed of a vehicle's wheel driving over the ground (2,3) and a first analyser unit (8) coupled to said wheel speed sensor (4). The first analyser unit comprises a sensor imperfection estimation section (9) which is designed to estimate a sensor imperfection signal, formula (I), from the wheel speed signal (t(n)) which is indicative of the sensor imperfection of the wheel speed sensor (4); a signal correction section (10) which is designed to determine an imperfection-corrected sensor signal  $(\varepsilon(n))$  from the wheel speed signal (t(n)) and the sensor imperfection signal, formula (I); and a ground condition estimation section (11) which is designed to estimate a first estimation value (r(n)),  $\alpha(n)$  indicative of the ground condition from the imperfection-corrected sensor signal  $(\varepsilon(n))$ .

## WO 2005/068271 A1



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